

## ABSTRACT OF THE DISCLOSURE

In a device for detecting an abnormality of a gas sensor having a detected cell in which a pair of electrodes are provided on a solid electrolyte material, a  
5 microcomputer temporarily inputs a test signal including an alternating current component to a signal line connected to the electrode and detects a response signal developing in response to the test signal. If there is no disconnection in the cell, a current corresponding to the alternating current component flows between the electrodes due to a parasitic capacity of the cell to produce the  
10 response signal. If there is a disconnection therein, the magnitude of the response signal becomes zero. Therefore, if a detection value of the response signal falls below a reference value, a decision is made that a disconnection abnormality occurs in the cell. This enables a disconnection in the gas sensor to be detected with accuracy.